



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,867	03/31/2004	Tetsuo Watanabe	03500.018093	4564
5514	7590	06/30/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			ROSENBERGER, FREDERICK F	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	
			2878	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/812,867

Applicant(s)

WATANABE, TETSUO

Examiner

Frederick F. Rosenberger

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13 is/are rejected.
- 7) ☒ Claim(s) 1-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/18/04, 10/19/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

See Figure 1 of US Patent # 6700126.

Specification

-
3. The disclosure is objected to because of the following informalities:

In the abstract, change lines 1-3 to "A radiation image photographing apparatus can be made thin in thickness and light in weight with load resistance characteristics satisfied."

On page 3, lines 26-27, "considering operators' works of..." should be "considering the operators' work in..."

On page 4, line 10, "shortage" should be "reduction".

On page 8, line 9, the acronym for CFRP has not been defined in the specifications.

On page 16, lines 4-5, "digit of index number" should be "order of magnitude".

On page 16, line 6, the acronym for CRRP has not been defined in the specifications.

Appropriate correction is required.

Claim Objections

4. Claims 1-12 are objected to because of the following informalities:

Claim 1, lines 11-15: The recitation in the cited lines defining the location of the openings is confusing and unclear. For the purposes of this Office action, the phrase of claim 1 has been interpreted such that the openings in the support substrate exist on the surface of the support substrate opposite the surface supporting the radiation detecting panel, as illustrated in the Drawings. The balance of the claims is objected to as they depend upon claim 1.

Claim 8, line 4: The positive recitation of "the first reinforcing plate" lacks proper antecedent basis in the body of the claim or in parent claim 1, upon which it depends. For the purposes of this Office action, claim 8 is assumed to depend upon claim 2 to establish proper antecedent basis.

Claim 9, line 3: The phrase "digit of index number" should be "order of magnitude".

Appropriate correction is required.

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Applicant recites in claim 8 that the second reinforcing plate is provided between the first reinforcing plate and the support substrate and is fixed to the support substrate on the radiation detecting panel side of the substrate. However, the specification teaches that the second reinforcing plate is located between the support substrate and the radiation detecting panel, as shown in Figure 6 (page 15, lines 16-26).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

~~(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.~~

7. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Tago (US Patent # 6,025,598).

Tago discloses a radiation image photographing apparatus for detecting radiation comprising:

A radiation detecting panel constructed by layering a fluorescent member **8** (Figure 1) for converting radiation into visible light, a grid-like arranged optoelectrical converting device **7** for converting the visible light into an electrical signal, and a substrate **6** on a surface of which the optoelectrical converting device **7** is formed;

A support substrate **5** for supporting the radiation detecting panel;

A housing **2** for containing the radiation detecting panel and the support substrate **5**;

Wherein a surface of the support substrate **5** for supporting the radiation detecting panel is made flat and the support substrate **5** is shaped into a hollow structure (Figure 2).

Allowable Subject Matter

8. Claims 1-12 would be allowable if rewritten or amended to overcome the objections as set forth in this Office action.

9. The following is a statement of reasons for the indication of allowable subject matter:

Claim 1 is directed towards a radiation image photographing apparatus for detecting radiation comprising a radiation detecting panel, a flat support substrate for the radiation detecting panel with a plurality of openings formed on the side opposite the surface supporting the radiation detecting panel, and a housing containing both the radiation detecting panel and the support substrate. The prior art teaches similar devices, especially with regards to a hollowed support substrate supporting a radiation

Art Unit: 2878

detection panel within a housing (see Tago applied to claim 13 above). However, the prior art neither teaches nor suggests the inclusion of numerous openings in the support substrate as opposed to a single opening. Further, while creating openings in the non-supportive surface of the supporting substrate would be a known method of weight reduction, the specific motivation for employing such a technique to radiation image photographing apparatuses is lacking. Other inventors in the prior art have focused on creating lighter devices through changing the material of the housing or modifying the reinforcing plate (see Hata '449, US Patent # 6,897,449). As such, applicant's disclosure provides a novel and nonobvious improvement over the prior art. Accordingly, claim 1 would be allowable. Claims 2-12 would also be allowable by virtue of their dependence upon claim 1.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hata '449 (US Patent # 6,897,449) describes the use of fiber-reinforced plastic for reducing weight in radiation detecting devices.

Hata '836 (US Patent # 6,495,836) discusses the criteria for material selection for a reinforcing plate/support for a radiation detection panel with a housing.


Yamamoto (US Patent Application Publication # 2004/0188626) teaches that a radiation-shielding member for use in a radiation detection panel can be made of molybdenum or tungsten.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick F. Rosenberger whose telephone number is 571-272-6107. The examiner can normally be reached on Monday-Friday 7:30 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frederick F. Rosenberger
Patent Examiner
GAU-2878



DAVID PORTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800